

Notes on Nordmann's Greenshank *Tringa guttifer* in Thailand

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Nordmann's or Spotted Greenshank *Tringa guttifer* is a notoriously elusive bird which is inadequately known both on its breeding grounds (Velizhanin and Yalchontov 1976, Nechaev 1982) and in its winter quarters (Lekagul *et al.* 1985). It is listed in the ICBP Red Data Book (King 1981).

During a stay of nearly two months in Thailand (November and December 1984), we identified five Nordmann's Greenshanks, one bird near Samut Sakhon (13°31'N 100°20'E) and four birds at Ko Li Bong (Ko Libong) (7°16'N 99°20'E). The largest concentration so far recorded for Thailand is eleven at Ko Li Bong in December 1985 (Parish 1986).

Identification

The most striking difference from Greenshanks *Tringa nebularia*, which were always present in places where we observed Nordmann's Greenshanks, was the chunkier outline of the latter, presumably caused by the combination of the distinctly shorter legs, slightly smaller size, slightly shorter neck and stouter bill. Although the upperparts are said to be paler in winter than in Greenshanks (King *et al.* 1975), one bird actually had darker, brownish upperparts and another had a coloration which was similar to that of a Greenshank. These birds might have been juveniles (Hayman *et al.* 1986). The barring of the tail-feathers is supposed to be paler than in Greenshanks; in three of the four birds at Ko Li Bong the barring was unexpectedly paler and hardly discernible, especially in flight. The webbing between all three front toes could be seen under good light conditions up to a distance of c.45 m (using a 20× telescope).

Nordmann's Greenshanks were less vocal than Greenshanks. The most commonly heard call was a short 'kuk', resembling the sound made by a Bar-tailed Godwit *Limosa lapponica*. Another sound was a long-drawn, unmelodious call 'chrieeuw', not unlike the panic call of a Greenshank but very different from the latter's normal call; it is presumably identical to the 'keyw' mentioned in King *et al.* (1981).

Foraging behaviour

The feeding behaviour of two individuals was observed on 4 and 5 December near the village of Ban Pa Tu Pute at Ko Li Bong, using a Bushnell 20-45×60 telescope. A long pier permitted an excellent view over the surrounding mudflats and the nearby roost. Bird A was feeding on sandy mudflats with some exposed volcanic rocks; 10-15% of the mudflats were covered with a thin layer of water and the activity of crabs was at a peak. Bird

B frequented sandy mudflats where water covered 70% of the area and the incoming tide forced crabs to recede into their holes.

Our Nordmann's Greenshanks were active, solitary feeders which located their prey whilst running and walking in irregular patterns across the mudflats. Occasional disputes with Greenshanks may have been indicative of the existence of feeding territories. Fifty percent of the feeding movements consisted of pecks; jabs (in which half the bill is inserted into the mud) were made less often, whereas probes (in which the bill is fully inserted) occurred occasionally (Table 1). Although jabs and probes are indicative of tactile feeding, Nordmann's Greenshanks were seen to use these movements only after having spotted the prey visually. This always involved crabs, which tried to escape down their burrows in the mud, but which were secured by the birds thrusting their bills into the holes.

The number of successful feeding movements per minute did not vary much between the two birds (Table 2). However, we had the impression that bird B walked more rapidly than bird A and made more attempts to catch prey in order to achieve the same absolute success per minute. Undoubtedly, the hectic activities of bird B were caused by the fact that the availability of crabs had seriously decreased because of the incoming tide.

Eleven times the prey was identified, always crabs with carapace lengths between 0.5 and 6 cm. The length of the carapace was estimated on the basis of the length of the bill, being 48–58 mm (Hayman *et al.* 1986). In two cases the crab was discarded immediately after catching; both crabs had carapace lengths equalling bill length. The remaining crabs were handled according to their size. Small crabs were simply adjusted in the bill and swallowed whole. Larger crabs were vigorously shaken until the legs came off. In one instance, the legs were swallowed separately. Mean handling time was 11.9 ± 6.1 s ($n = 9$, variation = 4–25 s).

Table 1. Feeding movements of two Nordmann's Greenshanks at Ko Li Bong, 4 December 1984.

	peck	jab	probe	total
Bird A	28	30	6	64
Bird B	137	94	36	267
Total	165	124	42	331

Table 2. Foraging characteristics of two Nordmann's Greenshanks at Ko Li Bong, 4 December 1984.

	Bird A	Bird B
Steps per minute		88.0 ± 42.0
Pecks per minute	8.0 ± 5.3	14.1 ± 5.4
Steps per peck		6.8 ± 3.2
Successes per minute	2.1 ± 1.2	2.4 ± 1.5
Steps per success		43.6
Success percentage	30.9 ± 13.7	18.0 ± 8.8
Minutes of observation	8	19

Discussion

The similarity in stance and feeding behaviour of Terek Sandpipers *Xenus cinereus* and Nordmann's Greenshanks (Hayman *et al.* 1986) is indeed striking. Both species have relatively short legs and mainly prey on crabs. This type of food obliges both species to make fast runs in order to catch the crab before it disappears into its burrow. However, the feeding movements of Nordmann's Greenshanks are not nearly so fast as those of Terek Sandpipers, which must be the fastest mudflat-runner around.

Of the five Nordmann's Greenshanks observed in Thailand during November and December 1984, four were recorded on coastal mudflats and one in a saltpan. Coastal mudflats are mentioned by King *et al.* (1975) as the habitat in winter quarters, but it seems that it might also be worthwhile looking for Nordmann's Greenshanks in saltpans and fish- and shrimp-ponds.

The foraging behaviour of Nordmann's Greenshanks, as observed at Ko Li Bong, did not differ greatly from that of the Greenshanks we have observed. However, fishing was not recorded. This hunting technique is common practice among Greenshanks. At Samut Sakhon Greenshanks were hunting for fish and mudskippers along the edge of saltpans, sometimes swimming or wading through belly-deep water. The Nordmann's Greenshank observed here was not feeding when detected but there can be no doubt that this species takes fishes when the circumstances are favourable, as in the breeding area (Nechaev 1982). Given its webbed feet, it might even swim more than Greenshanks.

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REFERENCES

- Hayman, P., Marchant, J. and Prater, T. (1986) *Shorebirds*. London: Croom Helm.
- King, B. F., Dickinson, E. C. and Woodcock, M. W. (1975) *A field guide to the birds of South-East Asia*. London: Collins.
- King, W. B. (1981) *Endangered birds of the world. The ICBP Red Data Book*. Second edition. Washington D. C.: Smithsonian Institution Press.
- Lekagul, B., Round, P. D. and Komolphalin, K. (1985) Birdwatching for Palearctic migrants in Thailand. *Brit. Birds* 78: 2-39.
- Nechaev, V. A. (1982) Nesting biology of the Spotted Greenshank (*Tringa guttifer*) in the Sakhalin Island. *Ornithological Studies in the U.S.S.R.* 1: 138-147.
- Parish, D. (1986) Northward migration 1986. *Interwader Newsletter* 7: 3-4.
- Velizhanin, A. G. and Yalchontov, V. F. (1976) Brief reports on the Spotted Greenshank. (In V. Novikov, ed. *Rare, threatened and inadequately known birds of the U.S.S.R.*) *Transactions of the Oka State Reserve* 13: 138. (In Russian).

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